



NATIONAL STANDARDS COMMISSION

WEIGHTS & MEASURES (PATTERNS OF INSTRUMENTS) REGULATIONS

REGULATION 9

CERTIFICATE OF APPROVAL No 6/10B/42

This is to certify that an approval has been granted by the Commission that the pattern and variants of the

Toledo Model 7510 Weighing Instrument

submitted by Toledo Scale (Australia) Pty Ltd
525 Graham Street
Port Melbourne, Victoria, 3207

are suitable for use for trade.

Instruments purporting to comply with this approval shall be marked NSC No 6/10B/42.

Relevant drawings and specifications are lodged with the Commission.

Conditions of Approval

1. The number of scale intervals applicable to the weighing instrument shall be no greater than the number of verification scale intervals approved for the basework, or load cells, or the headwork, whichever is the smallest.
2. The load cells to be used shall be subject to regular certification by the National Standards Commission.

Signed

Executive Director

Descriptive Advice

Pattern: approved 10/3/81

- A self-indicating weighbridge of 50 tonnes capacity comprising an eight load cell basework using Toledo model 0752 22,6 t load cells (part number 108684 or 110501) approved with up to 2500 scale intervals and a Toledo model 8132 digital mass indicator.

Variants: approved 10/3/81

1. With capacity of 60 t, with up to a maximum of 1200 scale intervals.

2. With a Toledo model 8136 digital mass indicator replacing the Toledo model 8132 indicator.

Technical Schedule No 6/10B/42 dated 13/4/81 describes the pattern and variants 1 and 2.

Variant: approved 2/12/81

3. With four Toledo model 0752 22.6 t load cells (part number 110501) approved for up to 2500 scale intervals, and with a maximum capacity of between 25 t and 30 t.

Technical Schedule No 6/10B/42 Variation No 1 dated 21/12/82 describes variant 3.

Filing Advice

Certificate of Approval No 6/10B/42 dated 26/1/82 is superseded by this Certificate and may be destroyed.

The documentation for this approval now comprises:

Certificate of Approval No 6/10B/42 dated 21/12/82
Technical Schedule No 6/10B/42 dated 13/4/81
Technical Schedule No 6/10B/42 Variation No 1 dated 21/12/82
Test Procedure No 6/10B/42 dated 13/4/81
Figures 1 to 4 dated 13/4/81
Figures 5 and 6 dated 21/12/82.



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/10B/42

Pattern: Toledo Weighing Instrument Model 7510

Submittor: Toledo-Berkel Pty Ltd,
525 Graham Street,
Port Melbourne, Victoria, 3207.

1. Description of Pattern

A self-indicating weighbridge of 50 tonnes maximum capacity. The weighbridge consists of a basework utilising eight Toledo Model 0752 load cells of maximum capacity 22.6 tonnes, and a Toledo 8132 digital mass indicator. The pattern is approved for a maximum capacity of 50 tonnes with up to 2500 scale intervals.

1.1 Basework and Load Cells

The basework is a load receptor supported at each of the eight points of suspension by a Toledo Model 0752 compression load cell of maximum capacity 22.6 tonnes, mounted as shown in Figure 1.

1.1.2 Range (Load Cells)

Maximum number of verification scale intervals	2500
Minimum dead load	3.35 t
Minimum measuring range	6 t
Maximum measuring range	22.6 t

1.1.3 Marking (Load Cells)

The following is the minimum of data required to be marked on each load cell:

Manufacturer's name	
Model number	
Serial number	
Output in the form:	mV/V
Maximum capacity	

1.1.4 Load Cell Interconnection

The cables from each of the load cells terminate in sealed load-cell junction balance boxes (Figure 4), one each side of the structure.

1.2 Indicator

Toledo Model 8132 digital mass indicator displaying up to 2 500 scale intervals in either of the two housings described in Supplementary Certificate of Approval No S102.

Figure 2 illustrates the desk-mounted indicator.

1.2.1 Zero

Pressing the button marked Z zeroes the instrument to within ± 0.25 scale intervals, and a light designated ZERO is illuminated. An automatic zero-correction device resets zero within ± 0.25 scale intervals.

1.2.3 Tare

- (a) A semi-automatic subtractive taring device allows a mass on the load receptor up to 2 500 scale intervals to be tared to within $\pm 0,25$ scale intervals.
- (b) A non-automatic subtractive taring device allows an operator to enter a tare in 1 scale interval increments up to 2500 scale intervals by using the 0 to 9 keyboard.
- (c) A tare mass indicator indicates the value of the tare entered.

1.2.4 Display verification

Pressing the button marked c will cause all indicators to blank. Pressing it again will cause mass and tare mass indicators to display all 8's and all other indicators to illuminate.

1.3 Markings

The nameplate is marked with the following data:

Manufacturer's name	
Serial number of instrument	
NSC approval number in the form:	NSC No.....
Accuracy class in the form:	III
Maximum capacity in the form:	Max*
Minimum capacity in the form:	Min*
Verification scale interval in the form:	$d_d = e = \dots*$
Maximum subtractive tare in the form:	T = -*
Load cell serial numbers	

1.4 Sealing

- (a) A lead sealed wire passes through a retaining screw and a lug on the indicator (Figure 2).
- (b) The output socket, which may be used to provide information to peripheral equipment, is sealed in the manner illustrated in Figure 3.
- (c) The junction box is sealed as in Figure 4.

2. Description of Variants

2.1 Variant 1

The pattern with capacity of 60 tonnes with a maximum of up to 1 200 scale intervals.

2.2 Variant 2

With the Toledo Model 8136 digital mass indicator described in Supplementary Certificate of Approval No S116 replacing the Toledo Model 8132. The description of these models differs only in the procedure for verification of display, which for Model 8136 is as follows:

2.2.1 Display verification

Pressing the ZERO button causes the mass indicator to blank showing only the centre segments of the display; it also causes all the indicator lights to illuminate.

* These markings are repeated on the reading face of the instrument.

TEST PROCEDURE No 6/10B/42

1. Accuracy Requirements

The maximum permissible errors are:

- $\pm 0.5e$ for loads between 0 and 500e;
- $\pm 1e$ for loads between 501e and 2000e; and
- $\pm 1.5e$ for loads above 2000e.

2. Zero Range

Check that the range of the zero adjustment is not more than 4% of the maximum capacity ($\pm 2\%$ approximately).

3. Zero Balance

Check by means of the Commission's digital zero test (Design Manual No 1, Document 104, Testing Procedure for the Elimination of Rounding Error for Weighing Instruments with Digital Indication) that, when the zero light is illuminated, zero is set within ± 0.25 scale intervals of zero.

4. Range of Indication

The maximum mass indicated should not exceed by more than 10 scale intervals the maximum capacity (Max); above this indicated mass the indicator should be blank.

5. Test Loads

Test loads are to be applied to the instrument in not less than 5 equal steps, with the first step equal to the minimum capacity, increasing to maximum capacity, followed by decreasing loads of not less than 5 equal steps.

All load applications to the instrument should be in accordance with the Commission's recommended test procedure for the elimination of rounding error as set out in Document 104.

The instrument should display these loads within the applicable tolerance as listed in 1. above.

6. Taring

Attempt to tare a mass above maximum capacity - this should not be possible.



NATIONAL STANDARDS COMMISSION

TECHNICAL SCHEDULE No 6/10B/42

VARIATION No 1

Pattern: Toledo Model 7510 Weighing Instrument

Submitter: Toledo Scale (Australia) Pty Ltd
525 Graham Street
Port Melbourne, Victoria, 3207

1. Description of Variant 3

With a basework supported on four Toledo model 0752 22,6 t load cells (part number 110501) approved with up to 2500 scale intervals, with a maximum capacity of between 25 t and 30 t.

The basework is suitable for use with up to 3000e.



NATIONAL STANDARDS COMMISSION

NOTIFICATION OF CHANGE

CERTIFICATE OF APPROVAL No 6/10B/42

CHANGE No 1

The following changes are made to the description of the Toledo Model 7510 Weighing instrument:

1) Certificate of Approval No 6/10B/42 and Technical Schedule No 6/10B/42 Variation No 1, both dated 26/1/82:

Replaced by the attached Certificate and Technical Schedule dated 21/12/82.

2) Technical Schedule No 6/10B/42 dated 13/4/81:

(i) Change paragraph 1.1, to read;

"... 22.6 tonnes (part numbers 108684 and 110501) and mounted as shown in Figures 1, 5 and 6."

Note: Figures 5 and 6 are included with this Notification of Change.

(ii) To the Figure captioned "Load Cell Mounting" dated 13/4/81, add the title;

FIGURE 6/10B/42 - 1

Signed

Executive Director

21/12/82



NATIONAL STANDARDS COMMISSION

CANCELLATION OF CERTIFICATE OF APPROVAL No 6/10B/42

This is to certify that Certificate of Approval No 6/10B/42 for the pattern and variants of the

Toledo Model 7510 Weighing Instrument

submitted by Toledo Scale (Australia) Pty Ltd
525 Graham Street
Port Melbourne, Victoria, 3207

will expire in respect of new instruments on 1 July 1983.

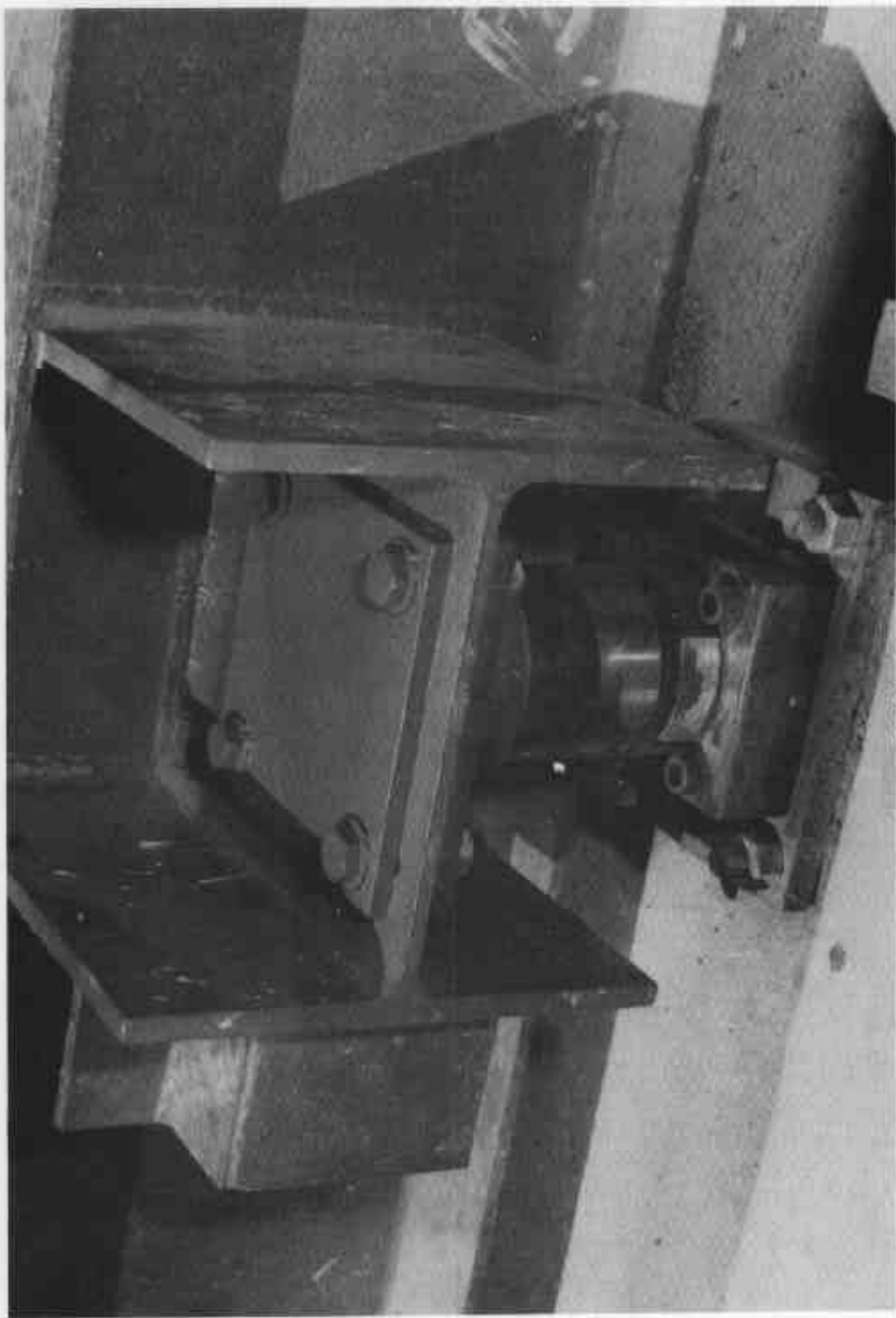
Instruments which were verified on or before that day may, with the concurrence of the State or Territorial verifying authorities, be submitted for reverification.

Signed

Executive Director

30/6/83

13/4/81



Load Cell Mounting

13/4/81

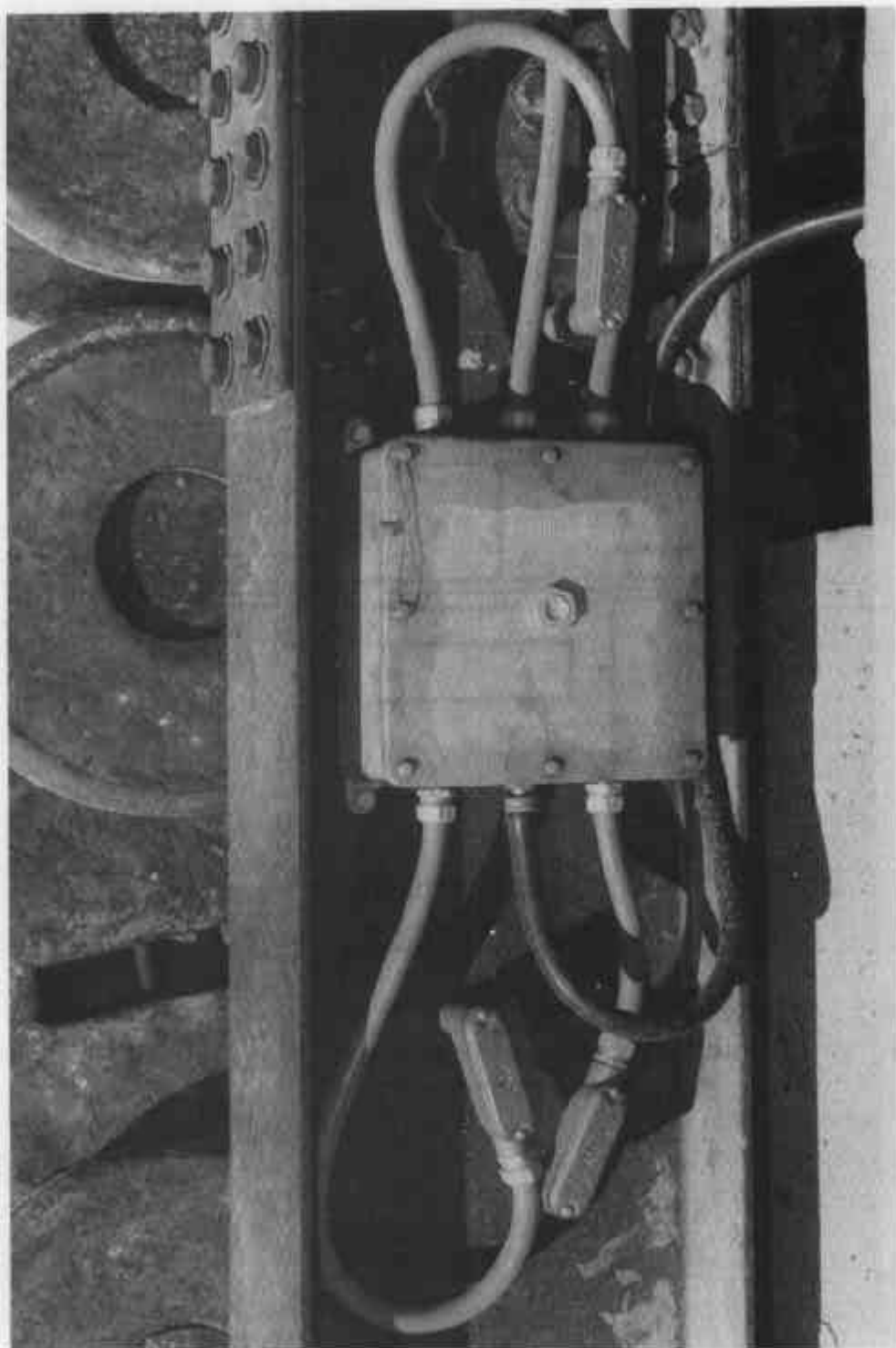
13/4/81

FIGURE 6/105/42 - 2



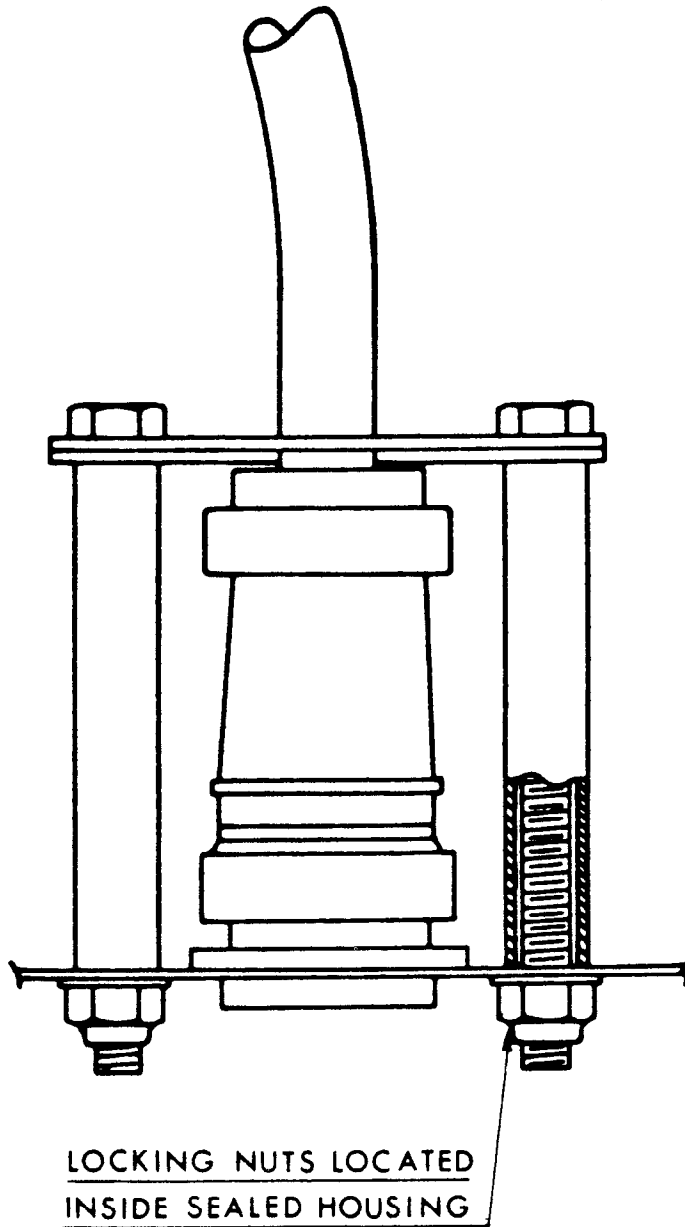
Toledo Model 8132 showing Markings and Sealing

FIGURE 6/10B/42 - 4



Load Cell Junction Box showing Sealing

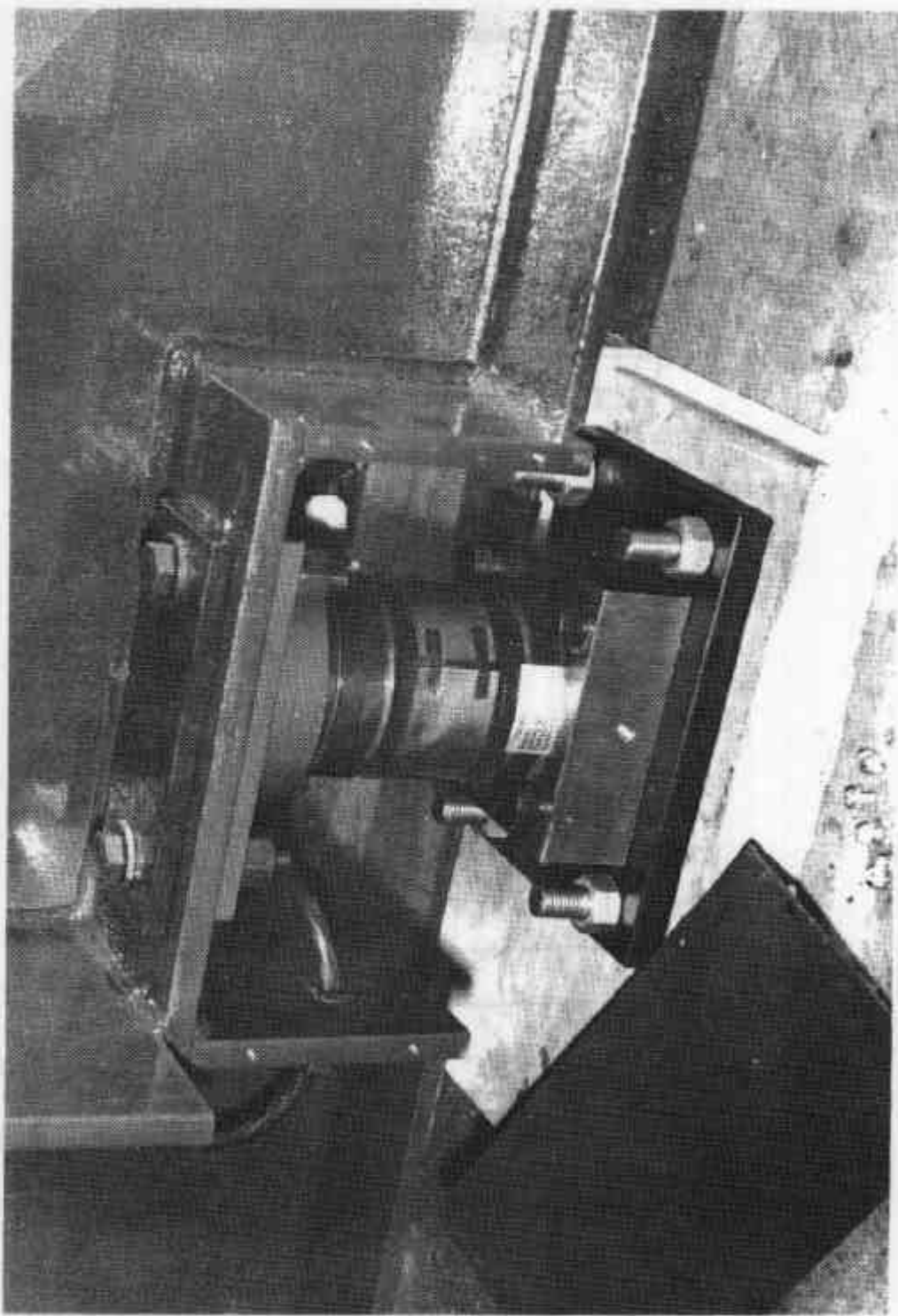
FIGURE 6/10B/42 - 3



Example of Sealing of Output Socket

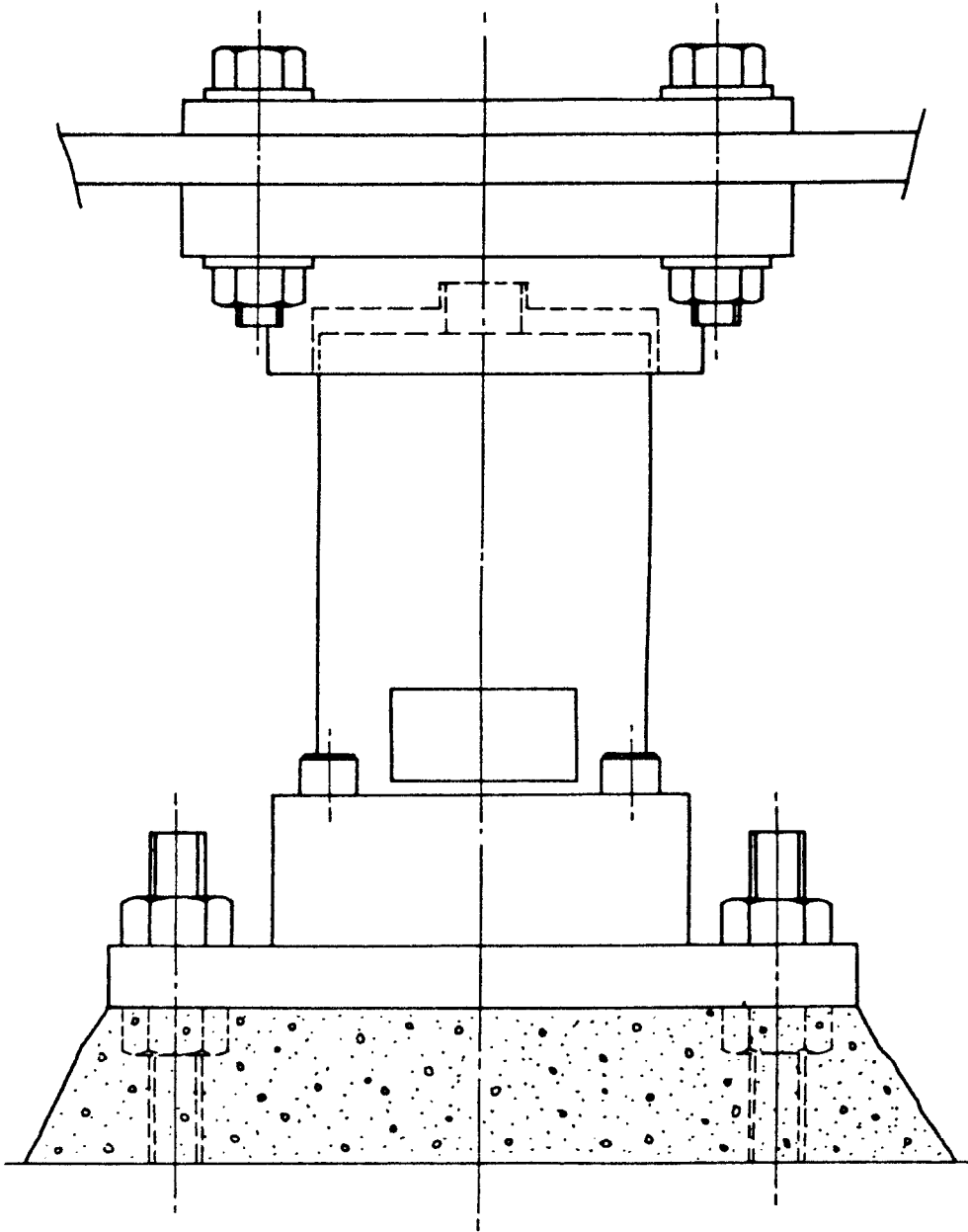
13/4/81

FIGURE 6/108/42 - 5



Alternative Load Cell Mounting - Sunshield Removed

FIGURE 6/10B/42 - 6



Schematic Of Load Cell Mounting

21/12/82